Appendix A-4
Safe Electrical Equipment Worldwide

**IMPORTANT USER NOTE: This document was created in 2014 and is based on information and guidance in force in 2014. It provides an overview of the development of electrical equipment safety. It also guides U.S. workers in the USA and abroad as to how best determine if locally obtained electrical equipment is electrically safe for use.*

BACKGROUND

DoD and the Services operate throughout the world, and there is often a need to purchase equipment. The DoD Electrical Safety Working Group, with the assistance of nationally recognized experts, conducted research to identify global electrical equipment safety requirements, as well as processes that can be used to identify safe equipment in key manufacturing countries and regions. Counterfeit equipment, an issue in many areas of the world, is also addressed. Three major elements of electrical equipment safety are analyzed: requirements of individual countries or regions, international standards, and testing and certification and/or accreditation processes. Safe Electrical Equipment Inspection Programs and Markings were identified for countries in several geographic regions:

- North America – USA, Canada, Mexico
- Central and South America – Argentina, Brazil, Chili, Venezuela
- Europe – Denmark, European Union (EU), France, Germany, Italy, Netherlands, Norway, Russia, Spain, Sweden, Switzerland, United Kingdom
- Asia – China, Hong Kong, India, Israel, Japan, Korea, Malaysia, Saudi Arabia, Singapore, Taiwan, Thailand
- Oceania – Australia, New Zealand
- Africa – Nigeria, South Africa

MAJOR ELEMENTS OF ELECTRICAL EQUIPMENT SAFETY

Electrical equipment safety applies to electrical consumer products, industrial electrical systems and components, and power distribution and utilization. The safety of electrical equipment depends on three key elements: national or regional (e.g., EU) requirements, standards, and testing and certification.

There are literally thousands of standards worldwide dealing with various aspects of electrically safe design and assembly requirements. The oldest requirements, standards organizations, and testing laboratories date back over 100 years in a very few countries including the United States (US), the United Kingdom, Germany, and Japan. From 1880 to about 1970, evolution of equipment safety standards was localized by country and less than 15 countries had strong programs. By the 1970s, an international effort for standardization in requirements, testing, and approval methods began and accreditation of testing and certification laboratories was instituted.

Electrical equipment safety, as a universal requirement in the workplace of technologically advanced countries, began around 1970 with the creation of government organizations focused

on workplace safety such as the Occupational Safety and Health Administration (OSHA) in the US. OSHA's Nationally Recognized Testing Laboratory (NRTL) program, started in 1970 and formalized in 1981, selects and monitors NRTLs as third party inspectors. The EU mandate, started in the 1980s, allows manufacturers to self-certify; the marking is CE. The EU is moving toward third party testing by providing accreditation for testing labs. Countries in other regions have developed safe equipment testing and certification programs as well. Less developed third world countries have begun to implement electrical equipment standards in the last 10 or 20 years, mostly with the help of globally active testing and certification organizations such as UL (USA), Intertek (UK), and TUV SUD (Germany).

Most electrical equipment standards and their enforcement has been focused on the workplace. The USA requires that all equipment used in the workplace be safe. Safety is designated by NRTL markings. DoD and Services purchasers must select NRTL-Listed equipment, even though it may be more expensive, as its quality of design, assembly, and materials have been tested to assure safety for the user. In most countries, few requirements to enforce the safety of consumer electrical equipment have been promulgated. In the US, the Consumer Protection Bureau, working with law enforcement partners, stop unfair and fraudulent business practices by collecting complaints, conducting investigations, and suing or arresting companies or people that break the law.

SAFETY MARKS FOR ELECTRICAL EQUIPMENT

The best insurance of safe equipment is: 1) purchase from a reputable and well established manufacturer, 2) purchase of a safety certified device that bears a recognized safety logo, and 3) use of the equipment as intended. ALL equipment that has been inspected and certified for safety has a safe equipment logo or safety mark embedded on the equipment, generally on the back.

Safety marks assure that equipment is safe for INTENDED use. For example, equipment which is designed and evaluated to be used indoors in the US is not "guaranteed" to be safe for use outdoors. A device evaluated and determined safe for use in the US may not be so in Europe. Equipment use criteria, including location and environmental factors, is found on accompanying manufacturer's literature or technical manual.

There may be well over 100 safety marks for electrical equipment. Each country determines which testing laboratories (and associated safety marks) are recognized. Often, countries clustered geographically recognize each other's safe equipment symbols. The US, Canada, and Mexico are an example of a regional cooperation in recognition of safe equipment. A power tap or strip manufactured for use in the US bearing a UL label can be assumed safe for Canada and Mexico as well; the label does NOT assure it to be safe for use in Europe, Asia, or Africa.

There are several countries and regions in which the DoD and the Services have an active presence; recognized testing laboratories and their safety marks by country are presented in Appendix A: Testing Laboratories And Their Safety Marks By Country. Equipment bearing markings shown in Appendix A can be considered safe for use as intended. As testing

organizations are reviewed periodically, it is important to note that this report is accurate for 2014, and must be reviewed for accuracy after five years.

THE CE MARK

Starting in the late 1990s, the countries in and around Europe adopted the "CE Mark" as a means to indicate that a product complies with the safety and consumer protection requirements of the European Laws and Directives. This mark was intended to facilitate free trade within the European Economic Area (EEA) countries. The CE mark is not a safety certification; it's the manufacturer's "self-declaration" of compliance, and not an independent third party's certification. In the US and Canada, the CE mark by itself does not demonstrate compliance with any safety standards. Therefore, in the US, electrical equipment purchased and used in the workplace bearing the CE mark must also bear an additional and acceptable safety mark.

For equipment purchased outside the US, particularly in third world countries, the CE mark may be the only safety mark on the equipment. An independent analysis by the DoD Electrical Safety Working Group in 2014 showed it preferable to select equipment with the CE mark over that with no equipment marking. However, that device must be inspected and approved by the Authority Having Jurisdiction (AHJ) for intended use to assure its safety. (Refer to the appropriate Service electrical safety program manual to learn more about the AHJ, who is designated by the Commander.)

TESTING LABORATORIES WITH MAJOR WORLDWIDE COVERAGE

Testing laboratories with a significant international presence include:

- Intertek, the largest tester of consumer goods in the world, headquartered in the United Kingdom, founded in 1888, with 38,000 employees, offices in 100 countries, more than 1000 facilities
- TUV SUD, headquartered in Germany, founded in 1866, with 19,000 employees, offices in 47 countries, 800 facilities
- UL, headquartered in the US, founded in 1894, with 12,000 employees, offices in 39 countries, serves 104 countries, 230 facilities

A listing of countries with electrical equipment safety requirements and the testing laboratories which each recognizes is found in Table 1, following. The list is not complete, but provides an idea of the scope of product safety worldwide. For each country, the dominant recognized testing laboratories are listed first, if any, followed by global product safety organizations.

Table 1: Countries With Electrical Equipment Safety Requirements And Their Recognized Testing Laboratories

NORTH AMERICA	CENTRAL AMERICA	CARIBBEAN	SOUTH AMERICA	EUROPE	MIDDLE EAST	AFRICA	ASIA	OCEANIA
United States	**Costa Rica**	**Aruba**	**Argentina**	**European Union**	**Bahrain**	**Algeria**	**Bangladesh**	**Australia**
UL	Intertek	Intertek	Intertek	CE	Intertek	Intertek	Intertek	CoA
CSA	**Guatemala**	**The Bahamas**	UL	CCA	**Egypt**	**Angola**	TUV SUD	CoC
FM	Intertek	Intertek	**Bolivia**	D	TUV SUD	Intertek	UL	RCM
MET	**Honduras**	**Curacao**	Intertek	EAC	**Georgia**	**Benin**	**Cambodia**	Intertek
NSF	Intertek	Intertek	**Brazil**	ENEC	Intertek	Intertek	Intertek	UL
WH	**Nicaragua**	**Puerto Rico**	Inmetro	Nemko	**Kuwait**	**Cameroon**	**China**	**Guam**
CS	Intertek	Intertek	Intertek	ECM	Intertek	Intertek	CCC	Intertek
Intertek	**Panama**	**St. Eustatius**	TUV SUD	**Azergaijan**	**Oman**	**Cote d'Ivoire**	CQC	**New Zealand**
TUV SUD	Intertek	Intertek	UL	Intertek	Intertek	Intertek	Intertek	CoA
Canada		**Trinidad**	**Chili**	**Austria**	TUV SUD	**Djibouti**	TUV SUD	CoC
CSA		Intertek	Intertek	TUV SUD	**Qatar**	Intertek	UL	RCM
Intertek		**US Virgin Islands**	**Colombia**	**Belarus**	Intertek	**Equatorial Guinea**	**Hong Kong**	Intertek
TUV SUD		Intertek	Intertek	STB	TUV SUD	Intertek	Intertek	UL
UL			**Ecuador**	UL	**Saudi Arabia**	**Egypt**	TUV SUD	**Papua New Guinea**
Mexico			Intertek	**Belgium**	Intertek	Intertek	UL	Intertek
NOM			**Peru**	Intertek	TUV SUD	**Gabon**	**India**	
Intertek			Intertek	TUV SUD	**United Arab Emirates**	Intertek	BIS/ISI	
TUV SUD			**Uruguay**	**Bosnia/ Herzegovina**	Intertek	**Ghana**	STQC	
UL			Intertek	TUV SUD	TUV SUD	Intertek	Intertek	
			Venezuela	**Bulgaria**	UL	**Kenya**	TUV SUD	
			Intertek	Intertek	**Uzbekistan**	Intertek	UL	
				Croatia	Intertek	**Liberia**	**Indonesia**	
				TUV SUD		Intertek	Intertek	
				Czech Republic		**Libya**	TUV SUD	
				Intertek		Intertek	**Japan**	
				TUV SUD		**Malawi**	JISC	
				Denmark		Intertek	JET	
				Demko		**Mauritius**	JIS	
				Intertek		Intertek	PSE	
				TUV SUD		**Morocco**	VCCI	
				UL		Intertek	Cosmos	
				Finland		**Mozambique**	Intertek	
				Fimko		Intertek	TUV SUD	
				Intertek		**Nigeria**	UL	
				France		Intertek	**Kazakhstan**	
				Intertek		**Senegal**	Intertek	
				TUV SUD		Intertek	**Malaysia**	
				UL		**South Africa**	Intertek	
				Germany		Intertek	TUV SUD	

Table 1: Countries With Electrical Equipment Safety Requirements And Their Recognized Testing Laboratories (cont.)

NORTH AMERICA	CENTRAL AMERICA	CARIBBEAN	SOUTH AMERICA	EUROPE	MIDDLE EAST	AFRICA	ASIA	OCEANIA
				TUV SUD		TUV SUD	**Pakistan**	
				GS		**Tanzania**	Intertek	
				VDE		Intertek	**Philippines**	
				Intertek		**Tunisia**	Intertek	
				UL		Intertek	TUV SUD	
				Greece		**Uganda**	**Singapore**	
				Intertek		Intertek	SAFETY	
				TUV SUD			Intertek	
						Zambia		
				Hungary		Intertek	TUV SUD	
				Intertek			UL	
				TUV SUD				
							South Korea	
				Italy			KC	
				Intertek			KETI	
				TUV SUD			Intertek	
				UL			TUV SUD	
				The Netherlands			UL	
				Intertek			**Sri Lanka**	
				TUV SUD			Intertek	
				UL			TUV SUD	
				Norway			UL	
				Nemko			**Taiwan**	
				Intertek			RPC	
				Poland			DoC	
				Intertek			Intertek	
				TUV SUD			TUV SUD	
				UL			UL	
				Portugal			**Thailand**	
				Intertek			Intertek	
				Romania			TUV SUD	
				Intertek			**Vietnam**	
				TUV SUD			Intertek	
				Russia			TUV SUD	
				GOST-R				
				EAC				
				Intertek				

Table 1: Countries With Electrical Equipment Safety Requirements And Their Recognized Testing Laboratories (cont.)

NORTH AMERICA	CENTRAL AMERICA	CARIBBEAN	SOUTH AMERICA	EUROPE	MIDDLE EAST	AFRICA	ASIA	OCEANIA
				TUV SUD				
				Serbia				
				TUV SUD				
				Slovakia				
				TUV SUD				
				Spain				
				Intertek				
				TUV SUD				
				UL				
				Sweden				
				Semko				
				Intertek				
				TUV SUD				
				UL				
				Switzerland				
				Intertek				
				TUV SUD				
				UL				
				Turkey				
				Intertek				
				TUV SUD				
				UL				
				Ukraine				
				Intertek				
				TUV SUD				
				United Kingdom				
				Intertek				
				Kitemark				
				TUV SUD				
				UL				

ACCREDITATION OF TESTING LABORATORIES

To be considered legitimate, a Testing Laboratory must be accredited. Accreditation is a formal, independent verification that the laboratory meets established quality standards and is competent to carry out specific conformity assessment tasks, including: testing, inspection, or certification.

The four primary international organizations that form a unified system for evaluating and recognizing competent accreditation bodies worldwide are:

- Asia Pacific Laboratory Accreditation Cooperation (APLAC)
- International Laboratory Accreditation Cooperation (ILAC)
- International Accreditation Forum (IAF)
- Pacific Accreditation Cooperation (PAC)

Symbols for these organizations are shown following. These symbols do not represent safe equipment markings.

These organizations are identified as "cooperations" because they have agreed to cooperate with one another by adhering to a common set of accreditation criteria and to undergo periodic onsite evaluation to determine ongoing compliance with ISO/IEC Standard 17011, *General Requirements for accreditation bodies accrediting conformity assessment bodies (CABS)*. Other important accreditation services around the world include:

- United Kingdom Accreditation Service (UKAS)
- Japan National Laboratory Accreditation (JNLA)

There is a global movement to harmonize with the eventual goal of one certification standard to identify safe equipment, but differences between standards still exist. As a result, multiple certifications are still required. That's one reason that equipment may bear many markings; it indicates that the device is safe for use in many places. In some areas of the globe, particularly those with active trade, there has been regional cooperative development of common standards, accreditation processes, and equipment testing, approval, and certification processes. Examples of regional cooperation include the EU (including the CE mark), the US and Canada, and Pacific Rim organizations.

Internationally, electrical safety standards are predominately stewarded by the International Electrotechnical Commission (IEC) and the International Organization for Standardization (ISO). The IEC System of Conformity Assessment for Electrotechnical Equipment and Components (IECEE) is the International Commission on the Rules for the Approval of Electrical Equipment

and is a standardization body of the IEC. The IEC uses the name IECEE for the IEC System for Conformity Testing and Certification of Electrical Equipment and Components, known as the Certification Body (CB) Scheme.

The CB Scheme is an international network of product certification organizations in more than 50 countries around the world. Its purpose is to allow a common recognition of quality. The CB Scheme identifies testing laboratories throughout the globe whose standards and practices assure a common standard of quality and accuracy for testing and reporting. This is important for organizations operating internationally, such as DoD, as it assures that those designated member testing laboratories have processes and procedures to identify safe equipment. The CB Scheme also benefits product manufacturers and distributors engaged in international trade by providing:

- A single point of product testing for efficient global market access
- Global acceptance of test reports leading to national certification in CB Scheme member countries
- Unilateral acceptance of test reports in many developing countries that are not yet participating in the CB Scheme

Each country that participates in the CB Scheme has one or more testing laboratories accepted by the IECEE as a National Certification Body (NCB). Sixty five (65) National Certification Bodies support the CB Scheme with 276 CB test labs. UL is one of the largest and most active CB Scheme members, and operates four NCBs in different countries and over 50 CB Testing Laboratories to provide local service with global coverage. The IECEE website (http://www.iecee.org/) contains comprehensive information, and may assist in identification of recognized testing laboratories and their safe equipment markings in 56 member countries: Argentina, Australia, Austria, Bahrain, Belarus, Belgium, Brazil, Bulgaria, Canada, China, Colombia, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Indonesia, Iran, Ireland, Israel, Italy, Japan, Kazakhstan, Kenya, Korea, Libya, Malaysia, Mexico, Netherlands, New Zealand, Norway, Pakistan, Poland, Portugal, Romania, Russia, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, United Arab Emirates, United Kingdom, USA, and Vietnam.

In Appendix A, Testing Laboratories And Their Safety Marks By Country, safe equipment markings of several countries in the CB scheme are shown. The markings, which identify each testing laboratory, assure the electrical safety of products which bear the marking IF the product is used as intended.

COUNTERFEIT PRODUCTS

A vast and growing problem in ascertaining the safety of electrical equipment is counterfeit electrical equipment. “Counterfeit” is something made in exact imitation of something valuable or important with the intention to deceive or defraud. In the case of counterfeit electrical equipment, it is the safety and certification process that is counterfeited.

The gain to the producer of the counterfeit equipment is to produce the equipment at low cost due to minimal or no safety features and no testing and certification, yet maintain a false appearance of safety and certification.

Counterfeiting is an international problem. The primary targets are the UL and CE marks. There are major efforts to fight counterfeiting both by UL in the US and by the EU for the CE mark. Controlling products bearing CE markings is the responsibility of public authorities in the EU's Member States, in cooperation with the European Commission. Citizens may contact national market surveillance authorities if the misuse of the CE marking is suspected or if a product's safety is questioned. The procedures, measures, and sanctions applying to counterfeiting of the CE marking vary according to the respective Member State's national administrative and penal law. Depending on the seriousness of the crime, economic operators may be liable to a fine and in some circumstances, imprisonment. However, if the product is not regarded as an imminent safety risk, the manufacturer may be given an opportunity to ensure that the product is in conformity to the applicable legislation before it is obliged to take the product off the market.

The first question any consumer asks when hearing about the potential for products bearing counterfeit certification marks is, "How can I tell?" Both UL and the EU have mechanisms in place to ensure that the UL and CE marking is put on products correctly and is valid. UL has recently developed a hologram marking that can be identified as legitimate by viewing it through a credit-card sized device provided by UL.

Fortunately, based on UL's experience, a very small percentage of goods have been discovered bearing counterfeit UL marks. If it appears that a product may have a counterfeit UL mark, it is prudent to contact UL immediately by e-mailing anticounterfeiting@us.ul.com or calling +1-877-UL-HELPS (1-877-854-3577).

UL also recommends the following considerations purchasers should keep in mind to avoid counterfeit products:

- Only shop with retailers you know and trust.
- Be wary of products found at deep discount stores that are packaged in boxes that don't display the brand, product name, or a certification mark on the box or the product itself.
- Look for a reputable certification mark on the box and product, such as the UL mark, to decrease your odds of buying potentially hazardous products. The mark should appear valid.
- Do not purchase electrical products from flea markets or other temporary venues that do not allow for product returns.
- If the price of the product is significantly lower than similar products, it may be because substandard, cheap materials were used in its manufacture. Beware!

APPENDIX A

TESTING LABORATORIES AND THEIR SAFETY MARKS BY COUNTRY

Electrically Safe Equipment Markings
USA

Equipment bearing one of these labels has engineering controls assured by Nationally Recognized Testing Laboratory (NRTL) listing
NRTLs are third-party organizations *Recognized* by OSHA as having the capability to provide *Product Safety Testing* and *Certification* services to manufacturers of a wide range of products for use in the American workplace.
The following are the NRTLs recognized by OSHA for electrical equipment available at: https://www.osha.gov/dts/otpca/nrtl/nrtlmrk.html

Canadian Standards Association (CSA)

Curtis- Straus LLC (CSL)

FM Approvals (FM)

International Association of Plumbing and Mechanical Officials EGS (IAPMO)

Intertek Testing Services NA, Inc. (ITSNA)

original MET mark

Mark used through August 2015

MET laboratories, Inc. (MET)

NEMKO-CCL (CCL)

NSF International (NSF)

Old SGS Certification Mark
Used through August 2018

QAI Laboratories , LTD(QAI)

QPS Evaluation Services Inc.

SGS North America, Inc.

Southwest Research Institute

TUV Reinland of North America, Inc.

TUV SUD America Inc.

TUV SUD Product Services GmbH

Underwriters Laboratories

Other U.S. Markings – Terminated

NRTL organizations which are no longer recognized by OSHA. Equipment inspected prior to the date noted is considered safe.

In 2004, Entela, Inc. was acquired by the parent company of Intertek (ITSNA).

Electrical Reliability Services, Inc. (ERS) formerly Electro-Test, Inc. (ETI), recognition was terminated, effective 6/23/2008.

Applied Research Laboratories, Inc. (ARL), recognition was terminated, effective 1/2/2008, supplemental information: https://www.osha.gov/dts/otpca/nrtl/ONLRsuppl-info.html.

Wyle Laboratories (WL), recognition was terminated, effective 8/24/2011

TUV Rheinland - NRTL previously used mark above but ceased authorizing on or about January 2000.

National Technical Systems, Inc. (NTS) recognition expired, effective 6/21/2012

Electrically Safe Equipment Markings
Canada

Electrical equipment must bear evidence of either a mark or a label of a certification agency accredited by the Standards Council of Canada: http://www.esasafe.com/assets/files/esasafe/pdf/Sample_Bulletins/2-7-29.pdf

:ers Laboratory

NEMKO-CCL (Communication Certification Laboratory)

cation

SGS Electrical & Electronics

QPS Evaluation Services Inc (QPS

Electrically Safe Equipment Markings
France, Spain, Italy, Germany and UK

Equipment bearing one of these labels has Engineering Controls assured by listing. Link to List of Recognized Certification Bodies (RCBs) for Electrical Products: http://www.emsd.gov.hk/emsd/eng/pps/electricity_reg_rc.shtml#Italy

, Germany other EU France, Germany

Electrically Safe Equipment Markings
Russia

On February 15, 2013 the national Russian certification system GOST R and national Russian technical regulation "On Safety of Machinery Equipment" was withdrawn. Equipment manufactured prior to that date can be considered safe. Simultaneously, the new Customs Union Technical Regulation for most electrical products was enforced in Russia, Belarus and Kazakhstan.
Conformity Testing marks indicate acceptance of safe equipment tested by other laboratories .

Russian Gost-r mark , also known as the Mark of Conformity GOST R certificates were valid until March 15, 2015. After that, the new EAC mark must be used.

Eurasian Conformity Mark (EAC) Mark of Conformity. The Mark is analogous with the European Union's CE mark for product safety.

Intertek

SGS Rostock Ltd

TUV SUD Product Services GmbH

Mandatory for any electrical equipment that is to be operated, or installed, in hazardous areas and potentially explosive atmospheres.

Electrically Safe Equipment Markings
Australia

Australia with all the states/territories commenced the Electrical Equipment Safety System (EESS) on 01 March 2013. Conformity Testing marks indicate acceptance of safe equipment tested by other laboratories .

British Standards Institution

UL International - Australia

Intertek

Testing Services of Australia

tory Compliance Mark (RCM), the single compliance
Australia commenced on 1 March 2013.

Electrically Safe Equipment Markings
Japan, Singapore, Korea, Taiwan, and China (Asia)

Conformity Testing marks indicate acceptance of safe equipment tested by other laboratories

China Compulsory Certificate requires testing at accredited laboratories in China

Intersect Testing Services, Singapore

TUV SUD (Singapore & Japan)

TUV Rhineland (China & Japan)

Korea KC Mark replaced the EK Mark in 2009.

BSMI Mark, Taiwan, MET Electrical Testing

Taiwan SGS Safety Certification Service Center

PSE Mark is mandatory for Japan under the Electrical Appliances and Material Safety Law. Japan Electrical Safety and Environment Technology (JET) Laboratory, refer to: http://www.jet.or.jp/en/

Certification of Photovoltaic Modules covered by the Certification Scheme are crystalline silicon and thin-film PV modules which are designed and intended to be installed in terrestrial PV power generation systems.

Certification of circuit breakers for residences, refer to: http://www.jet.or.jp/en/products/breaker/index.html

Electrically Safe Equipment Markings
Indonesia, Qatar and Turkey

Indonesian National Standard (abbreviated SNI) is nationally applicable in Indonesia, http://www.snicertificate.com/ and a CB Scheme participating country. Turkey is an IECEE CB Scheme participating country. CB Scheme Conformity Testing marks indicate acceptance of safe equipment tested by other laboratories The Qatar General Organization for Standards and Metrology (QGOSM) recently issued rules regulating the import and sales of certain electrical appliances, http://www.intertek.com/uploadedFiles/Intertek/Divisions/Oil_Chemical_and_Agri/Media/pdfs/Qatar-Exporter%20Guidelines-English.pdf .

TUV Rheinland Indonesia

Intertie Indonesia

Société Générale De Surveillance S.A., (SGS) Indonesia

SGS Turkey

TUV Rheinland Turkey

Intertek Turkey

Intertie Qatar

SGS Qatar

TUV SUD Middle East, Qatar

Electrically Safe Equipment Markings
Nigeria and South Africa

In January 2013, the Standards Organisation of Nigeria (SON) Conformity Assessment Program (SONCAP) officially released a new SONCAP process with a completely revised conformity assessment structure, link: http://son.gov.ng/soncap/. In South Africa the regulator is the South African Bureau of Standards (SABS), https://www.sabs.co.za/.

SGS Inspection Services Nigeria

Intertek Nigeria

TUV Rheinland Nigeria

SGS South Africa

Intertek South Africa

TUV SUD South Africa

TUV Rheinland South Africa